

**Appln No. 10/586,081**  
**Amdt date September 17, 2010**  
**Reply to Office action of July 8, 2010**

**REMARKS/ARGUMENTS**

Claims 2 and 3 are pending in the application, and both claims stand rejected as purportedly being anticipated by FAN (EP 0 393 676). Applicant respectfully traverses the rejection.

As indicated in claim 2, the particles that are used in the practice of the claim method contain at least one cavity and are at least partially dissolved, induced to react, or melted by the beam of energy or jet of liquid. Applicant has now amended the claim to specify that, when the particles are induced to react, they are induced to chemically react. Support for the limitation is found in the application at page 3, lines 19-21. No new matter has been added.

In the Office action, the Examiner states that "FAN discloses that the said hollow sphere deflective matter provides adequate heat capacity to dissipate the excess heat of photohardening, but still provides thermal insulation to increase the photospeed . . . [t]herefore the said hollow spheres (particles) will inherently react to the actinic radiation" provided by the laser beam. Office action, page 3. Applicant respectfully submits that this is not true. On page 7, lines 30-31, FAN discloses that the radiation is not absorbed but merely deflected in order to promote photospeed. Therefore, it is not true that the hollow spheres absorb the heat by dissipation and, therefore, react. On page 8, lines 36-38, FAN discloses that the hollow spheres create capsules which are preferred over solid particles. The advantages purportedly achieved by FAN can, therefore, only be achieved when the cavity within the sphere is not destroyed by chemical reaction. According to FAN such advantages are:

- higher radiation reflecting power (see page 8, line 39), which is achieved by the two reflection layers in the hollow spheres;
- thermal insulation (see page 8, lines 44-45), which is achieved by the gas within the hollow spheres; and

**Appln No. 10/586,081**  
**Amdt date September 17, 2010**  
**Reply to Office action of July 8, 2010**

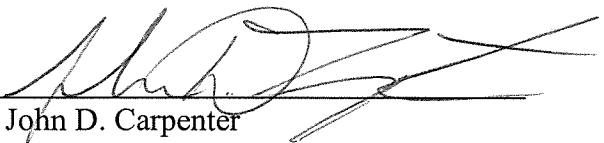
- low specific gravity (see page 8, line 51), which is achieved by the gas within the hollow spheres.

All of these advantages would be destroyed if the hollow spheres collapse and the gas escape therefrom. Furthermore, FAN discloses, on page 8, line 37, hollow spheres of glass and ceramic, which are definitely not molten. The same is true of hollow spheres of polymer material, which are not disclosed as being molten either.

Accordingly, FAN does not teach or suggest a method for manufacturing a three-dimensional object in which "the particles that are used contain at least one cavity and/or at least partially dissolve, induced to chemically react, or melted by the beam of energy or jet of liquid," as recited in pending claim 2. Therefore, a rejection under 35 USC § 102 is improper and should be reversed.

Accordingly, independent claim 2 and deep into claim 3 are submitted to be allowable over the art. A notice of allowance is respectfully requested.

Respectfully submitted,  
CHRISTIE, PARKER & HALE, LLP

By   
John D. Carpenter  
Reg. No. 34,133  
626/795-9900

JDC/ars

ARS PAS920463.1-\* -09/17/10 4:15 PM